

REMARKS/ARGUMENTS

The amendments and remarks hereto attend to all outstanding issues in the pending office action of April 17, 2003. A Petition for two-months Extension of Time and the required fee are included herewith to extend the period for response to and including September 17, 2003. Claims 1-39 remain pending in this application. Claims 1, 15, 24, and 31 are independent.

Priority

1. Acknowledgment is made regarding certified copy of the United States' application as required by 35 U.S.C. 119(b). We will investigate this as delivery was requested, and ensure another copy is sent.

Objections to the Drawings

2. Pursuant to 37 CFR § 1.121(d) and the OG Notices, all drawings are replaced, and FIG. 2 and FIG. 6 are replaced to attend to the Examiner's objection that numbers 107 and 605 were hand written.

The above-described amendments address all of the Examiner's objections to the drawings. No new matter is introduced in the amendments to FIG. 2 and FIG. 6; reconsideration is requested.

Rejections under 35 U.S.C. §102

3, 4. Claims 1-8, 11-21, 24, 27-31, and 34-39 stand rejected as being anticipated by United States Patent No. 4,190,137 (hereinafter, Shimada). We respectfully disagree. To anticipate a claim, Shimada must teach every element of the claim and "the identical invention must be shown in as complete detail as contained in the ... claim." *MPEP 2131* citing *Verdegaal Bros. V. Union Oil Co. of California*, 814 F.2d 628, 2 USPQ2d 1051 (Fed. Cir. 1987) and *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 9 USPQ2d 1913 (Fed. Cir. 1989). Shimada does not teach every element of Applicant's claims 1-8, 11-21, 24, 27-31, and 34-39.

Shimada teaches of 'at least two trolley wires for supplying an alternating current power to an electric vehicle, and at least two feeder lines coupled to the trolley

wires at feeding points' and further specifies that 'a closed loop formed between a portion of the trolley wires and a feeder portion of the feeder lines through two adjacent feeding points.' Shimada, col. 2, line 67. Further, Shimada teaches of a 'throughtype current transformer' being applied to the closed loop, the closed loop forming a secondary conductor of the transformer, to induce a secondary alternating current in the closed loop, which causes Joules heating within the conductor to melt the ice. Shimada, col. 3, line 6.

In the present application, independent claims 1, 24 and 31 require an electrical conductor proximate to a surface to be deiced, and an AC power source for providing a high-frequency AC voltage in the electrical conductor. Accordingly, the immediate application does not require that the cableway be a closed loop, as in Shimada. The immediate application also does not use a transformer to induce a current in the cable. Instead, the immediate application creates an alternating electric field around the electrical conductor that, due to its proximity, causes ice on the surface to melt. This high frequency alternating electrical field causes Joules heating within the ice, not the cable. Shimada does not teach of Joules heating within the ice resulting from a high frequency alternating electric field generated by a high frequency alternating voltage applied to cable in the proximity of the ice.

Each dependent claim benefits from like arguments. In view of the above remarks, which thus apply to all claims 1-8, 11-21, 24, 27-31, and 34-39 Applicant contends that these claims are patentably distinct from Shimada, and respectfully requests the Examiner's reconsideration and allowance.

Rejections under 35 U.S.C. §103

5. The following is a quotation from the MPEP setting forth the three basic criteria that must be met to establish a *prima facie* case of obviousness.

To establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the

references or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. MPEP, §2142, citing *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

6. Claims 9, 22, 25, and 32 stand rejected as being unpatentable over Shimada in view of United States Patent Number 5,523,959 (hereinafter, Seegmiller).

These claims depend from independent claims argued above, and benefit from like arguments. In particular, Shimada teaches of a de-icing system that utilizes a transformer to induce a current in a closed loop cable, whereby the current through the closed loop causes the cable to heat as a result of Joules heating. The system of Shimada does not teach of inducing a current in ice to cause the ice itself to heat and melt as a result of Joules heating. Shimada does not, therefore, teach the elements of the independent claims, or of dependent claims 9, 22, 25 and 32.

Seegmiller teaches of a system to detect ice forming on an aircraft. The system of Seegmiller comprises of a transmitting electrode and at least one receiving electrode. Seegmiller, Col. 4, line 64. Seegmiller teaches that a signal is couples to the transmitting electrode and has a frequency in a range from about 5 KHz to about 40 MHz, which is preferably selected so as not to interfere with the other aircraft equipment. Seegmiller Col. 5, lines 13-16. This frequency range is selected such that the inductance of ice couples the signal from the transmitting electrode to the receiving electrode, where it is detected by a voltage detector. Seegmiller does not teach that the frequency is in any way related to the melting of ice.

Further, with reference to Shimada, the frequency of the current through the transformer and induced in the closed loop cable is less significant, and is chosen for suitability of current induction in the material of the closed loop cable. It is believed that a frequency in the range of 40MHz would not enhance the performance of the de-icing capabilities of the Shimada system.

Accordingly, Shimada and Seegmiller do not teach each element of claims 9, 22, 25 and 32. Applicant thus contends that claims 9, 22, 25 and 32 are patentable

over Shimada in view of Seegmiller, and respectfully requests re-examination and allowance.

7. Claims 10, 23, 26, and 33 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Shimada in view of United States Patent Number 5,902,962 (hereinafter, Gazdzinski).

Once again, these claims depend from independent claims argued above with respect to Shimada. In particular, Shimada teaches of a de-icing system that utilizes a transformer to induce a current in a closed loop cable, whereby the current through the closed loop causes the cable to heat as a result of Joules heating. The system of Shimada does not teach of inducing a current in ice to cause the ice itself to heat and melt as a result of Joules heating. Shimada does not, therefore, teach the elements of the independent claims, nor of features of dependent claims 10, 23, 26 and 33.

Gazdzinski teaches of a method for monitoring aging within a cable, and generally categorizes cables based on voltage ranges into three ranges: below 1000V AC or 250V DC, between 2 and 15kV AC, and above 15kV AC. Gazdzinski teaches of the deterioration and aging of a cable and does not teach of any application of a particular voltage range, particularly with reference to de-icing systems.

Shimada and Gazdzinski do not teach every element of claims 10, 23, 26 and 33. Applicant thus contend that claims 10, 23, 26, and 33 are patentable over Shimada in view of Gazdzinski, since the cited references do not teach each element of the claims. Applicant also now respectfully requests reconsideration and allowance of claims 10, 23, 26 and 33.

In view of the above Remarks, Applicant has addressed all issues raised in the Office Action dated April 17, 2003, and respectfully solicits a Notice of Allowance. Should any issues remain, the Examiner is encouraged to telephone the undersigned attorney.

Applicant believes no additional fees are due, however, if any additional fee is deemed necessary in connection with this amendment, please charge Deposit Account No. 12-0600.

Sincerely yours,

LATHROP & GAGE L.C.

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